1997 Technical Appendix:
Births and Deaths

TECHNICAL APPENDIX

Vital Statistics Registration in Utah

Centralized vital statistics registration for the State of Utah was first established by act of the Utah Legislature in 1905. Sections 26-2-1 through 26-2-27, Utah Code Annotated, 1953 as amended, provide the current statutory authority.

26-2-3. The department shall have the following powers and duties:

(1) provide offices properly equipped for the preservation of vital records made or received under this chapter;

(2) establish a statewide system of vital statistics for the registration, collection, preservation, amendment and certification of vital records and other reports required by this chapter and activities related thereto including the tabulation, analysis, and publication of vital statistics;

(3) prescribe forms for certificates, certification, and other necessary forms;

(4) provide for the annual compilation, analysis, and publication of statistics from vital records;

(5) enforce this chapter and the rules made pursuant hereto;

(6) appoint a state registrar of vital statistics to direct the statewide system of vital statistics;

(7) divide the state from time to time into registration districts; and

(8) appoint local registrars for registration districts who, under the direction and supervision of the state registrar, shall perform all duties required of them by this chapter and the rules of the department.

Under Utah's statutes, full-time health officers of local health departments become ex officio local registrars and are responsible for the registration of certificates for all births and deaths that occur within their respective jurisdictions. Figure A-1 is a list of local health departments, registrars and deputy registrars. Each of the twelve local health departments reside over a local health district. The local health districts (also referred to as "districts" in this report) and respective counties are Bear River (Box Elder, Cach and Rich), Central Utah (Juab, Millard, Piute, Sanpete, Sevier and Wayne), Davis, Salt Lake, Southeastern (Carbon, Emery, Grand and San Juan), Southwest (Beaver, Garfield, Iron, Kane and Washington), Summit, Tooele, Uintah Basin (Daggett, Duchesne, and Uintah), Utah, Wasatch, and Weber-Mortan (Morgan and Weber). Figure A-2 is a Utah map which shows the county boundaries.

Source of Data

Vital statistics certificates filed with the state Bureau of Vital Records are the primary source of data presented within this report. These records include certificates of live birth, death and fetal death. Source data of official population estimates for the state are provided by the Govenor's Office of Planning and Budget.

Forms for certificates

Utah's certificates of live birth, death and fetal death are revised periodically to include items on the recommended national "Standard Certificates," with modifications and additions to meet particular needs in Utah. The live birth certificate has not been significantly revised since 1993, and the death and fetal death certificates have not been significantly revised since 1989 (Figures A-3, A-4 and A-5).

Quality and Limitations of Data

Limitations of the data must be recognized before valid interpretation is possible. For vital statistics data, these limitations are related to the difficulties in reporting and classifying information and to some under-registration of events. It is necessary to exercise particular caution when evaluating vital statistics trend data, since medical concepts, code

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The completeness of registration for births was last tested at the state level in conjunction with the 1950 U.S. Census of the Population and was found to be 98.7 percent complete at that time. At the present time, more than 99 percent of all Utah's resident births occur in hospitals. This fact, coupled with information from sample studies, indicates that the completeness of birth certificate registration now exceeds 99 percent.

The registration of fetal deaths at 20 weeks or more gestation is required by statute. Since May 1981, the institution where the delivery occurs has the responsibility for filing a fetal death certificate if the delivery results in a fetal death. Fetal death certificates are to be registered by the fifth day after the delivery and before disposition of the remains. Most deliveries (99%) occur in hospitals and women who miscarry unexpectedly at 20 weeks or more are usually taken to a hospital if they are not already there. Funeral directors are responsible for checking that a fetal death certificate has been filed for all such dispositions they handle.

Limitation of Small Numbers

All statistics are subject to chance variation. Such random variation in a large number of events has little effect on the data for the group; however, random variation in a small number of events may results in a startling change in the data for the group. For example, minor differences in the number of births or deaths in small populations or in the number of deaths from uncommon causes may result in large changes in these rates. Rates for areas of small population or for events with few occurrences should be interpreted with this limitation in mind.

Cause of Death

Cause of death statistics are derived from the medical certification information required by law to be reported on the death or fetal death certificate by the attending physician or medical examiner. The medical certification item on certificates of death and fetal death has a provision for reporting three causes of death--immediate, intervening, and underlying, plus additional information related to the cause of death.

The cause of death selected for coding and tabulating mortality statistics is the "underlying cause of death," which is generally defined as the disease or injury which initiated the sequence of morbid events leading directly to death.

Occasionally, death certificates are registered with the cause of death information incomplete, inconsistent, or equivocal, and additional information from the certifier is not available. In such causes, selection and modification rules are used to select the underlying cause of death for statistical purposes. Selection and modification rules which adapt the coding procedures to reporting practices in the United States are published by the Public Health Service, National Center for Health Statistics, in annual editions of the Vital Statistics Instructional Manual. From January 1, 1968 through December 31, 1978, the Eighth Revision International Classification of Diseases was used in classifying the underlying cause of death on Utah's death certificates. Starting January 1, 1979, the Ninth Revision of the International Classification of Diseases has been used to code the underlying cause of death in Utah. Comparability ratios between revisions have been computed by the National Center for Health Statistics[1] and have been published in the Utah Vital Statistics, Annual Report: 1980. Comparability ratios for some cause of death codes show extreme variation and utmost caution should be taken in interpreting any cause of death trends that span the Eighth and Ninth Revisions of the International Classification of Disease.

Geographic Bases

Birth and death data can be presented by place of occurrence of the event or by place of usual residence of the individual. For deaths, "place of residence" for the decedent is defined as the usual residence of the decedent. For births, "place of residence" for the child is defined as the usual residence of the mother.

Reallocation of birth and death certificates to the state of residence has been virtually complete on a nationwide basis since 1955. This is made possible by a cooperative program among the states for exchange of copies of certificates of non-resident events for statisticsal purposes only

deaths by place of occurrence rather than by place of residence. Statistical tabulations of accidental deaths "by place of occurrence" refer to the place where the death occurred, and not the place where the accident occurred. A hypothetical example may help to clarify the above explanation. Assume that a resident of Denver, Colorado is involved in a motor vehicle accident in Wendover, Nevada and requires emergency aid of a special nature. The closest available facility is the Tooele Valley Hospital in Tooele, Utah. After arriving at the hospital, the patient succumbs to conditions arising from the accident. In such cases, the "place of occurrence" of the death for statistical purposes would be Tooele, Utah, not Wendover, Nevada; however, there can also be a table of accidental deaths by place where the accident occurred. In this example, the death would be classified as an accidental death to a non-resident which occurred in Utah. The place where the accident occurred would be out-of-state (Wendover, Nevada).

Race/Ethnic Origin

The Utah Department of Health began tabulating birth data by race of mother in the 1990 data year. Prior to 1990, birth data was tabulated by race of infant. This change corresponds to the 1989 revision of the Utah birth certificate. Caution should be used when comparing the racial classification of birth data prior to 1990 with data collected in 1990 and later. An explanation of the factors that brought about the racial classification change of birth data and the problems of analyzing the trend data is available in Utah's Vital Statistics Annual Report: 1990.

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[1]National Center for Health Statistics, "Estimates of Selected Comparability Ratios Based on Dual Coding of 1976 Death Certificates by the Eighth and Ninth Revisions of the International Classification of Diseases," Monthly Vital Statistics Report, 28, 11(S), pp 12-13, Hyattsville MD, Public Health Service, February 29, 1980.